



Piedmont Regional Office  
4949-A Cox Road, Glen Allen, VA23060

Phone #: (804) 527-5020

Registration #: 50232

Site Name: Honeywell Resins and Chemicals LLC -Hopewell

Address: 905 E Randolph Rd, Hopewell, VA 23860

Contact: Thomas Varner: (804) 541-5632

Report #: 306633

CMS: Mega-Site

Classification: Major/Potential Major

## AIR INSPECTION REPORT

The purpose of this inspection report is to document DEQ's observations and provide the compliance status for requirements applicable to the facility. Presented below are the following:

- **Inspection Details** describe this inspection report
- **Compliance Summary** lists individual requirements addressed in the report
- **Inspection Summary** provides an overview of the inspector's observations
- **Inspection Checklist** provides additional details and individual observations related to specific requirements

### Inspection Details

Inspection Date: Nov 30, 2015  
Inspection Reason: Review VEE Report  
Reporting Period:  
Inspector: John Reinhardt  
Inspection Result: Out of Compliance

Program Code Subpart  
SIP

### Approvals

*John Reinhardt*

*David Robinett*

Inspector: John Reinhardt  
Signed Date: Dec 22, 2015

Supervisor: David Robinett  
Approved Date: Dec 22, 2015

## Compliance Summary

**In Compliance** The applicable requirements listed in the table below were confirmed during the inspection to be in compliance.

Permit Effective Date or Regulation	Applicable Requirement
Regulations	9 VAC 5-50-80

**Out of Compliance** The applicable requirements listed in the table below were confirmed during the inspection to be out of compliance.

Permit Effective Date or Regulation	Applicable Requirement
7/18/2013 CA&O EPA DEQ and Honeywell Signatures	VII. 21.

## Inspection Summary

### SUBMISSION INFORMATION:

#### REPORT

COVER LETTER DATE: 10/21/15,

TEST DATE: 09/14 and 15/15

RECEIVED: 11/17/15

DOCUMENT CERTIFICATION: 10/21/15 by Frederick Harry

HONEYWELL CONTACT: Mr. Thomas Varner (804) 541-5632

TESTING FIRM CONTACT: Ms Melanie Bethea (910) 799-1055

\*THE REPORT WAS SUBMITTED TIMELY. TESTING WAS NOT CONDUCTED TIMELY.

### UNITS TESTED and CONTROL EQUIPMENT:

Nitrite tower: TW-2 has no controls

Nitrite tower: TW-8 is equipped with a venturi scrubber and SCR

Nitrite tower: TW-22 is equipped with a venturi scrubber and NOx time tank

Nitrite tower: TW-32 is equipped with a venturi scrubber and NOx time tank

Disulfonate tower: TW-9 is equipped with a packed bed scrubber, mist eliminator and SCR

Disulfonate tower: TW-23 is equipped with a packed bed scrubber and mist eliminator

Disulfonate tower: TW-33 is equipped with a packed bed scrubber and mist eliminator

Disulfonate tower: TW-62 is equipped with a packed bed scrubber and mist eliminator

### REQUIREMENTS

#### OPACITY

Consent decree condition 21 of the July 18, 2013 requires method 9 opacity testing.

Standards:

The Consent Decree, Title V permit and New Source Review permits do not contain emissions standards. The applicable opacity standard is stated in the July 18, 2013 consent decree. The consent decree references the State Air Pollution Control Board regulations under 9 VAC 5-40-80 which follows: "Unless specified otherwise in this part, no owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any visible emissions which exhibit greater than 20% opacity, except for one six minute period in any one hour of not more than 60% opacity. Failure to meet the requirements of this section because of

the presence of water vapor shall not be a violation of this section."

#### METHOD 9 REVIEW

Testing was conducted as required. The method 9 observer was certified on 06/09/15 by ECS Smoke School. This method requires three opacity observation sets, each observation set consists of ten averages of six minutes. The report shows that Method 9 requirements were met. The EPA Method 9 results are summarized below:

NITRITE TOWER: TW-2

TEST DATE: 09/15/15

TEST RANGE: 5 to 10% opacity

HIGHEST TEST AVERAGE: 9.4%

DISULFONATE TOWER: TW-62

TEST DATE: 09/14/15

TEST RANGE: 0 to 5%

HIGHEST TEST AVERAGE: 2.8%

NITRITE TOWER: TW-8

TEST DATE: 09/14/15

TEST RANGE: No opacity observed

HIGHEST TEST AVERAGE: 0.0

DISULFONATE TOWER: TW-9

TEST DATE: 09/14/15

TEST RANGE: no opacity observed

HIGHEST TEST AVERAGE: 0.0%

NITRITE TOWER: TW-22

TEST DATE: 09/15/15

TEST RANGE: all readings were 5.0%

HIGHEST TEST AVERAGE: 5.0%

DISULFONATE TOWER: TW-23

TEST DATE: 09/15/15

TEST RANGE: 15 to 20%

HIGHEST TEST AVERAGE: 17.9%

NITRITE TOWER: TW-32

TEST DATE: 09/15/15

TEST RANGE: 15 to 20%

HIGHEST TEST AVERAGE: 17.2%

DISULFONATE TOWER: TW-33

TEST DATE: 09/15/15

TEST RANGE: 5 to 15%

HIGHEST TEST AVERAGE: 13.75%

NO OPACITY OBSERVATIONS EXCEEDED LIMITS

#### TIMELY TESTING REQUIREMENT

Method 9 testing is required by consent decree condition 21. Condition 21 requires testing to be conducted within 24 months of the consent decree effective July 18, 2013. Method 9 testing was conducted on 09/14/15 for the towers as listed: TW-62, TW-8 and TW-9; method 9 testing was conducted 58 days late. Method 9 testing was conducted on 09/15/15 for the towers as listed: TW-2, TW-22, TW-23, TW-32 and TW-33; method 9 testing was conducted 59 days late.

OPACITY TESTING WAS NOT CONDUCTED TIMELY



## RESULTS

The report shows that the opacity limits were not exceeded. Method 9 testing was not conducted timely.

### Inspection Checklist

Effective Date: Jul 18, 2013 Applicable Requirement #: VII. 21.

Compliance Status: **Out of Compliance**

#### Applicable Requirement

21. Within twenty-four (24) months of the effective date of this Consent Decree, Honeywell shall conduct particulate matter (PM) and opacity performance testing on Towers TW-2, TW-8, TW-17, TW-22, TW-23, TW-62, TW-9, TW-18, TW-32, and TW-33 in accordance with Part 60 Appendix A, Methods 1-5, 9 and 201 to determine compliance with the control efficiency and emission limit requirements established in the Title V Permit and summarized in the table below in this Paragraph, and the opacity requirements established in Article 1 of 9 VAC 5 Chapter 40 of Virginia's regulations. During each performance test, Honeywell shall continuously monitor the scrubber pressure drop and scrubber liquid flow to establish operating parameter ranges to ensure continuous compliance with the control efficiency and emission limit requirements established in the Title V Permit and the opacity limits established in Article 1 of 9 VAC 5 Chapter 40 of Virginia's regulations. Honeywell shall submit, for approval by VADEQ, in consultation with EPA, the PM and Opacity Emission Testing Reports for each tower identified below no later than sixty (60) Days after the completion of the emissions test for that source. In the PM Emissions Testing Report for towers equipped with a particulate matter control device (i.e., TW-8, TW-22, TW-32, TW-62, TW-9, TW-18, TW-23 and TW-33), Honeywell shall (a) calculate the mass PM emission flow rate at the inlet and outlet of the towers associated control device, and (b) propose scrubber pressure drop and scrubber liquid flow values for the associated control device that will ensure that it meets the emissions limits and opacity limits. For the towers not equipped with particulate matter control devices (i.e., TW-2 and TW-17), Honeywell shall (a) calculate the mass PM emission flow rate at the outlet of the tower and (b) propose process operating parameter values that will ensure that the tower meets the emission limits established in the Title V permit. The PM and Opacity Emissions Testing Report shall include, at a minimum, all test results, operating data, calibration data, chains of custody, all equations used, and assumptions made calculating Honeywells proposed parameter.

#### Train Ammonium Nitrite (Nitrite) Towers

##### TW-2 Nitrite Tower

PM Limit = 11.1 lbs/hr  
PM Limit = 32.0 tons/yr

PM 10 Limit = 4.0 lbs/yr  
PM 10 Limit = 11.5 tons/yr

##### TW-8 Nitrite Tower

PM Limit = 3.8 lbs/hr  
PM Limit = 12.0 tons/yr

PM 10 Limit = 1.9 lbs/yr  
PM 10 Limit = 6.0 tons/yr

##### Venturi Scrubber

90% efficiency required

##### TW-17 Nitrite Tower

PM Limit = 21.2 lbs/hr  
PM Limit = 76.2 tons/yr

PM 10 Limit = 7.6 lbs/yr  
PM 10 Limit = 27.4 tons/yr

##### TW-22 Nitrite Tower

PM Limit = 3.8 lbs/hr  
PM Limit = 12.0 tons/yr

PM 10 Limit = 1.9 lbs/yr  
PM 10 Limit = 6.0 tons/yr

Venturi Scrubber  
90% efficiency required

TW-32 Nitrite Tower  
PM Limit = 3.8 lbs/hr  
PM Limit = 12.0 tons/yr

PM 10 Limit = 1.9 lbs/yr  
PM 10 Limit = 6.0 tons/yr

Venturi Scrubber  
90% efficiency required

Hydroxylamine Diammonium Sulfonate (Disulfonate) Towers

TW-62 Disulfonate Tower  
PM Limit = 1.2 lbs/hr  
PM Limit = 4.5 tons/yr

PM 10 Limit = 1.2 lbs/yr  
PM 10 Limit = 4.5 tons/yr

Mist Eliminator  
98% efficiency required

TW-9 Disulfonate Tower  
PM Limit = 1.2 lbs/hr  
PM Limit = 4.5 tons/yr

PM 10 Limit = 1.2 lbs/yr  
PM 10 Limit = 4.5 tons/yr

Mist Eliminator  
98% efficiency required

TW-18 Disulfonate Tower  
PM Limit = 1.2 lbs/hr  
PM Limit = 4.5 tons/yr

PM 10 Limit = 1.2 lbs/yr  
PM 10 Limit = 4.5 tons/yr

TW-23 Disulfonate Tower  
PM Limit = 1.2 lbs/hr  
PM Limit = 4.5 tons/yr

PM 10 Limit = 1.2 lbs/yr  
PM 10 Limit = 4.5 tons/yr

TW-33 Disulfonate Tower  
PM Limit = 1.2 lbs/hr  
PM Limit = 4.5 tons/yr

PM 10 Limit = 1.2 lbs/yr  
PM 10 Limit = 4.5 tons/yr

Mist Eliminator  
98% efficiency required

**Observation**

This condition requires testing to be conducted within 24 months of the consent decree effective date of July 18, 2013.

Method 9 testing was conducted on 09/14/15 for the towers as listed: TW-62, TW-8 and TW-9. Method 9 testing was conducted 58 days late.

Method 9 testing was conducted on 09/15/15 for the towers as listed: TW-2, TW-22, TW-23, TW-32 and TW-33. Method 9 testing was conducted 59 days late.

**Effective Date:**

**Applicable Requirement #:** 9 VAC 5-50-80

**Compliance Status:** In Compliance

**Applicable Requirement**

9 VAC 5 50 80. Standard for visible emissions.

Unless specified otherwise in this part, on or after the date on which the performance test required to be conducted by 9 VAC 5 50 30 is completed, no owner or other person shall cause or permit to be discharged into the atmosphere from any affected facility any visible emissions which exhibit greater than 20% opacity, except for one six minute period in any one hour of not more than 30% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section.

**Observation**

**METHOD 9 REVIEW**

Testing was conducted as required. The method 9 observer was certified on 06/09/15 by ECS Smoke School. The method requires three opacity observation sets, each observation set consists of ten averages of six minutes. The report shows that Method 9 procedural requirements were met. The EPA Method 9 results are summarized below:

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HIGHEST TEST AVERAGE: 9.4%

DISULFONATE TOWER: TW-62

TEST DATE: 09/14/15

TEST RANGE: 0 to 5%

HIGHEST TEST AVERAGE: 2.8%

NITRITE TOWER: TW-8

TEST DATE: 09/14/15

TEST RANGE: No opacity observed

HIGHEST TEST AVERAGE: 0.0

DISULFONATE TOWER: TW-9

TEST DATE: 09/14/15

TEST RANGE: no opacity observed

HIGHEST TEST AVERAGE: 0.0%

NITRITE TOWER: TW-22

TEST DATE: 09/15/15

TEST RANGE: all readings were 5.0%

HIGHEST TEST AVERAGE: 5.0%

DISULFONATE TOWER: TW-23

TEST DATE: 09/15/15

TEST RANGE: 15 to 20%

HIGHEST TEST AVERAGE: 17.9%

NITRITE TOWER: TW-32

TEST DATE: 09/15/15

TEST RANGE: 15 to 20%

HIGHEST TEST AVERAGE: 17.2%

DISULFONATE TOWER: TW-33

TEST DATE: 09/15/15

TEST RANGE: 5 to 15%

HIGHEST TEST AVERAGE: 13.75%

NO OPACITY OBSERVATIONS EXCEEDED LIMITS